



# Living Better Series

## Brain Health: Nutrition

# What is Brain Health

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“Brain health refers to the ability to remember, learn, plan, concentrate and maintain a clear, active mind.”

According to NeuroHealth Associates

# Recap of Risk Factors

| Non-Modifiable Risk Factors          | Modifiable Risk Factors  |
|--------------------------------------|--------------------------|
| Age                                  | Head Injuries            |
| Family History                       | High Blood Pressure      |
| Genetics: (specifically Alzheimer's) | High Cholesterol         |
| Lack of Childhood Education          | Mini Stokes (TIA)        |
| Lifestyle Prior to this presentation | High Homocysteine Levels |
|                                      | High Blood Sugar         |
|                                      | Poor Nutrition           |
|                                      | Chronic Stress           |
|                                      | Depression               |
|                                      | Social Isolation         |
|                                      | Sedentary Lifestyle      |
|                                      | Smoking                  |

# Why Is Nutrition Important

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Helps Control The Following Risk Factors

Uncontrolled High Blood Pressure

Uncontrolled High Cholesterol

Mini Strokes (TIAs)

High Homocysteine Levels

High Blood Sugar

Poor Nutrition

Smoking

# Key Terms

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- Free Radicals
  - Unstable molecule that steal electrons from other cells which creates more free radicals.
  - Natural byproduct of your body producing energy
  - External causes of free radicals are from sugar, fried food, processed food, pesticides, and tobacco smoke
  - In high levels causes damage to cells, creates inflammation, and disrupt chemical processes in the brain
- Anti Oxidants
  - Molecule that gives an electron to a free radical without becoming unstable
  - Our body produces some, but production declines with age
  - Found mainly in fruits and vegetables

# Let's Talk About "Diets"

**You are  
what you  
eat!**



**Brain  
Health is a  
lifestyle  
Not a diet**



**Don't be  
cheap, fast,  
and easy**

# The Essentials

- Macronutrients
- Micronutrients
- Fiber
- Water



# Macronutrients

## The Body's Fuel

- Carbohydrates
- Protein
- Fats

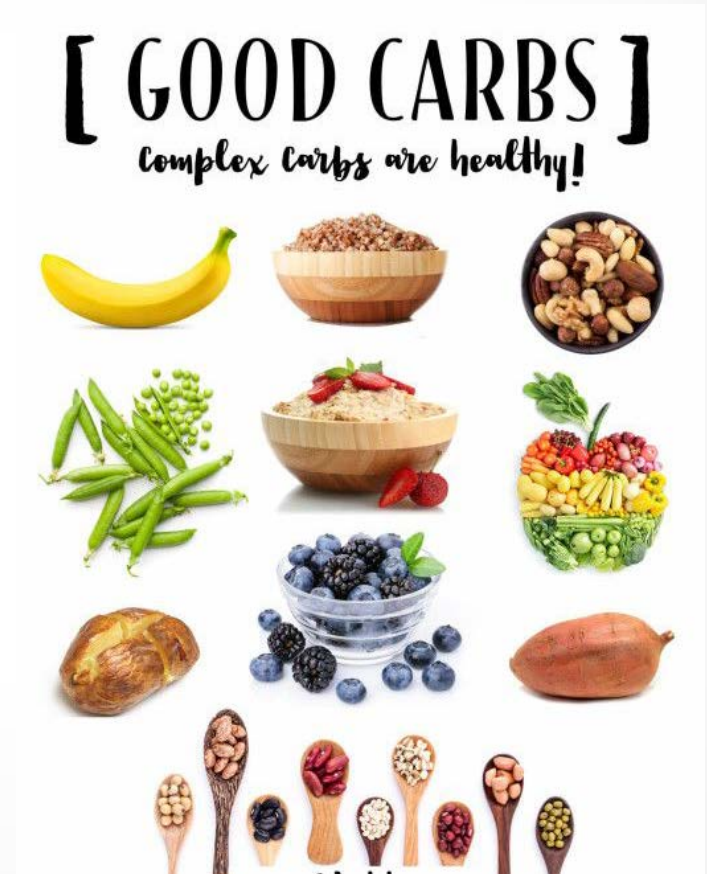
| Macronutrient Cheat Sheet |                 |                        |                |
|---------------------------|-----------------|------------------------|----------------|
| Carbs                     |                 | Proteins               | Fats           |
| Rice                      | Quinoa          | Beef                   | Eggs           |
| Potatoes                  | Beans           | Fish                   | Chia           |
| Wheat                     | Peas            | Poultry                | Salmon         |
| Flours                    | Lowfat-Yogurt   | Shellfish              | Milk           |
| Fruits                    | Skim Milk       | Bison                  | Cottage-Cheese |
| Veggies                   | Sprouted-Grains | Non fat Cottage Cheese | Duck           |
| Pastas                    |                 | Non fat Yogurts        | Whole-Yogurt   |
| Cereals                   |                 | Whey powder            | Whole-Milk     |
| Oats                      |                 | Plant Powder           | Whole-Cheese   |
| Sugars                    |                 | Egg powder             | Bacon          |
| Syrups                    |                 | Soy powder             |                |
| Honey                     |                 | Egg Whites             |                |
| Bran                      |                 |                        |                |
| Couscous                  |                 |                        |                |
| Whole-Grains              |                 |                        |                |



# Carbohydrates

## Glucose: the preferred energy

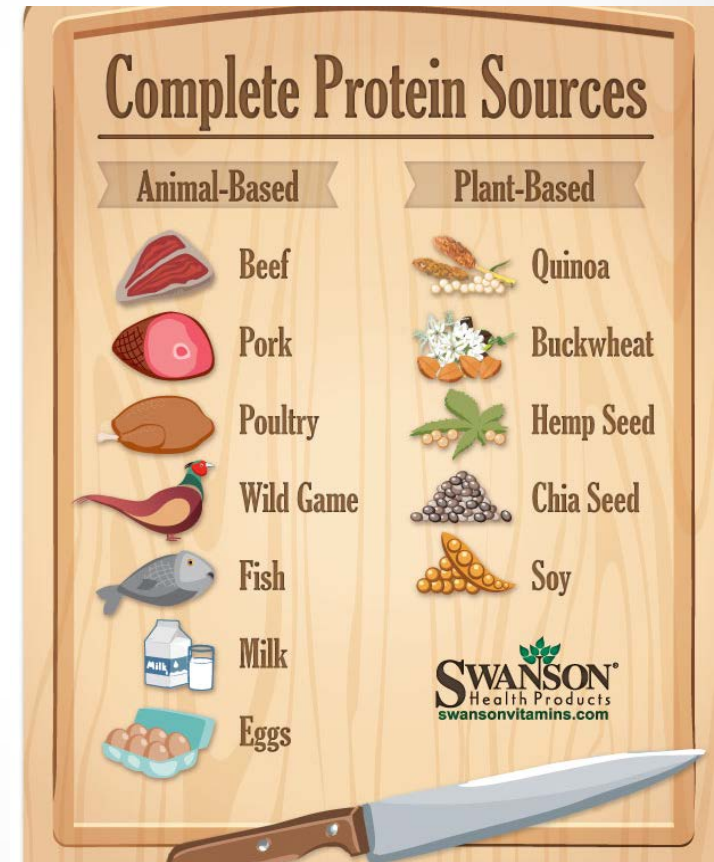
- RDA to maintain body weight
  - 225 to 325 grams per day
- *\*\*Not all carbs are created equal\*\**
- Simple Carbohydrates
  - The bad guys
  - Metabolizes quick so fewer nutrients are absorbed
  - Spikes blood sugar and creates inflammation
- Complex Carbohydrates
  - The good guys
  - Metabolized slowly in the gut so nutrients are absorbed
  - Steady flow of glucose that helps to control blood sugar
- Long-term effects of a high-carbohydrate diet
  - High blood sugar and Type II Diabetes



# Protein

## Our Building Blocks

- RDA to maintain body weight
  - Males 56 grams per day
  - Females 46 grams per day
- Our body can not store protein so it must be consumed through food each day
- Can provide energy for the body but can not cross the blood brain barrier
- Incomplete
  - Provides some amino acids and must be combined with other foods
- Complete
  - Contains the 9 essential amino acids to build a protein
- Long-term effects of a high-protein diet
  - Kidney disease and High Blood Pressure



# Fats

## Energy Storage and Regulator

- RDA to maintain body weight
  - 20-35% per day
- Our brain's dry matter mostly consists of fat
- Essential Fatty Acids
  - Omega 6 to Omega 3
  - DHA and EPA
- Saturated Fats
  - Moderation is key
- Unsaturated Fats
  - Monounsaturated
- Trans Fats
  - Stay away from the word "hydrogenated"
  - ***Don't eat...ever***
- Long-term effects of a high-fat diet
  - High Cholesterol and Mini Strokes



# Micronutrients

## Anti-Oxidant Powerhouses

- Eating a balance of whole foods is the best way to absorb micronutrients
- Minerals
  - Calcium and Magnesium
  - Selenium
  - Copper
- Vitamins
  - Water soluble
    - B Vitamins (Biotin, Folate, B12, B6)
    - Vitamin C
  - Fat Soluble
    - Vitamin A, D, E, K



# Fiber

## Healthy Gut, Healthy Brain

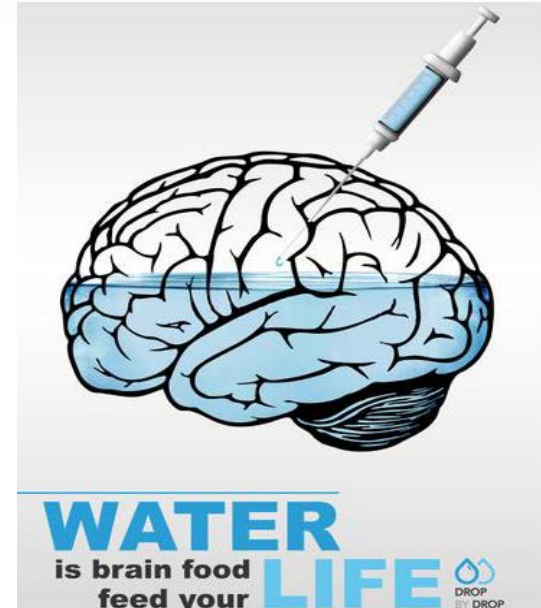
- RDA to main body weight
  - Men 30 grams
  - Women 21 grams
- Short-Chain Fatty Acids: Butyrate
  - All fiber especially whole grains, oats, brown rice, beans, and legumes
- Insoluble
  - Helps regulate digestive enzymes and absorption
  - Found in whole wheat, grains, nuts, fruits, and vegetables
- Soluble
  - Helps regulate blood sugar and controls cholesterol.
  - Found in apples, flaxseed, oats, and beans



# Water

## Your Brain is 85% Water

- Dehydration can cause short term memory problems and delay the ability to recall long term memories
- Chronic dehydration uses up your cognitive reserve
- By the time you feel thirsty you are mildly dehydrated
- The baseline goal is eight 8 ounce glasses per day.
- Proper hydration increases blood flow to your brain, helps your brain remove toxins, improves focus, concentration, and memory



# Herbs and Spices

## Brain Powerhouses in the Kitchen

- Curcumin Active ingredient in turmeric
  - Powerful anti-inflammatory
  - Supports mood stability and resiliency in times of stress
  - Enhances the growth of new cells in the brain
- Cinnamon
  - Rich in the antioxidant manganese
  - Helps lower blood sugar
  - Helps control cholesterol
- Ginger
  - High in antioxidants
  - Powerful anti-inflammatory
  - Improve reaction time and working memory



# Top 10 Brain Booster

- Salmon
- Blueberries
- Walnuts
- Turmeric
- Dark Chocolate (60% and up)
- Broccoli
- Eggs
- Extra Virgin Olive Oil
- Beans (great source of folate)
- Avocados

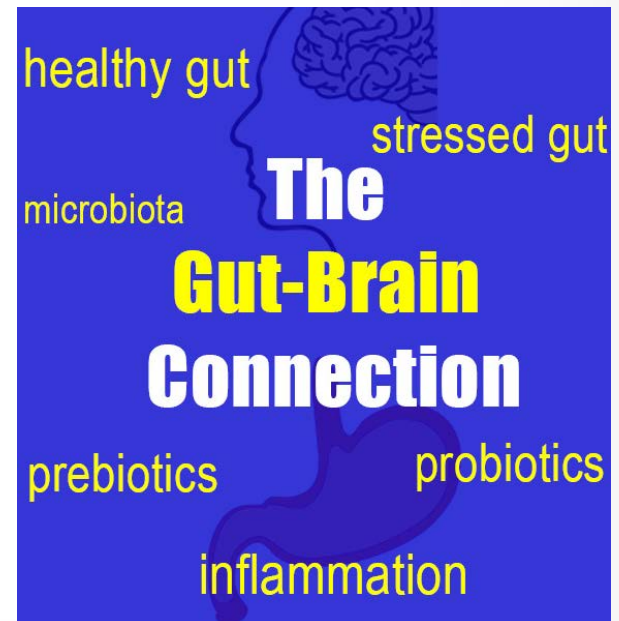




# Probiotics

## Healthy Gut Brain Axis

- Gut bacteria influences inflammation and hormone production in the brain
- Did you know that some serotonin is made in the brain, but most is made in the gut?
- The gut-brain axis is a focus in neuroscience research



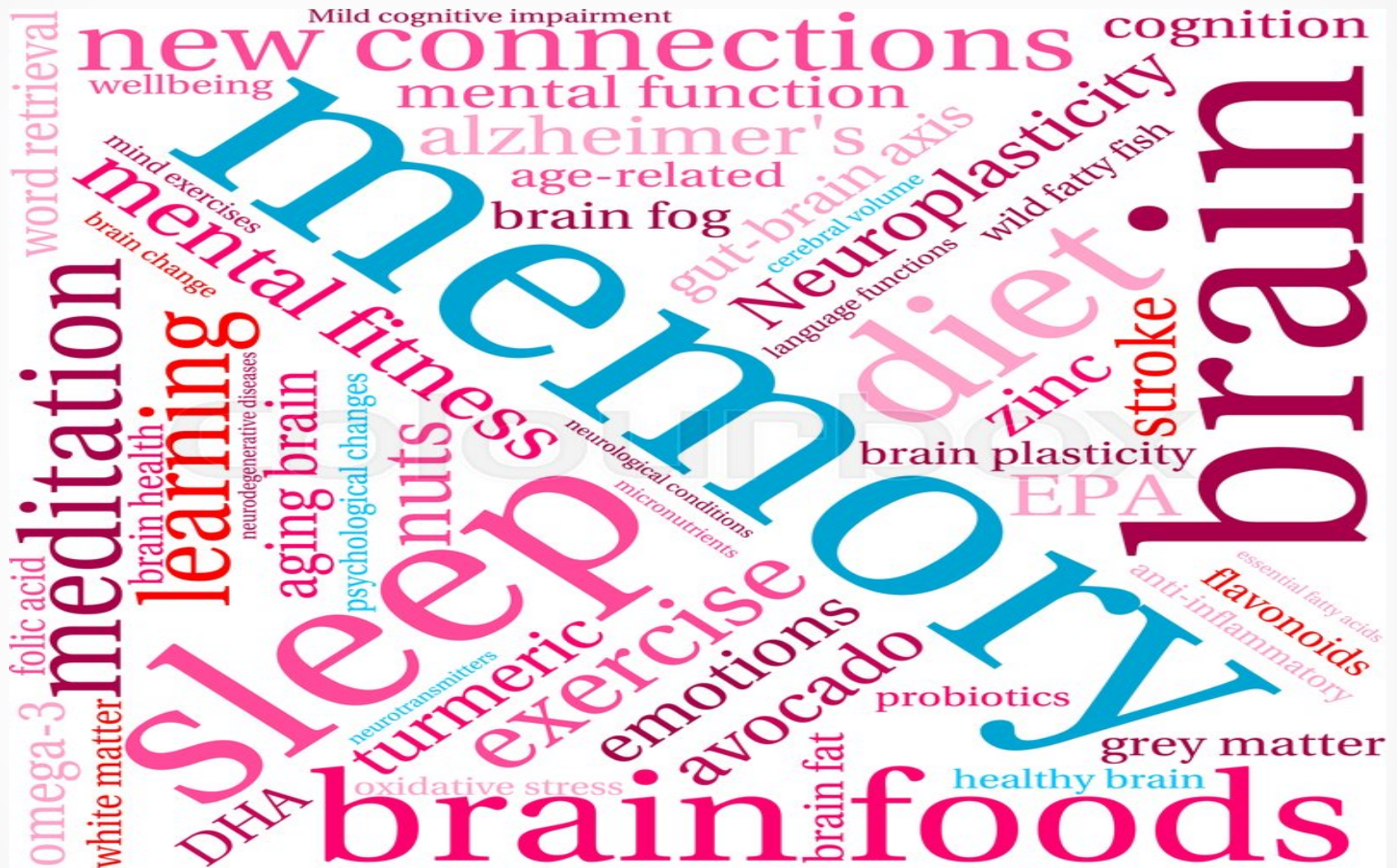
# Supplements

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There are several supplements that support brain health, however, supplements can interact with other medications and health conditions. If you would like to try a supplement consult with your physician to determine which one would be best for you.



# Bring It All Together



# Reference

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- <https://brainhealth.acl.gov/>
- <http://www.aarp.org/health/brain-health/>
- <https://www.nih.gov>
- [http://www.alz.org/brain-health/stay\\_mentally\\_socially\\_active.asp](http://www.alz.org/brain-health/stay_mentally_socially_active.asp)
- [www.amenclinics.com](http://www.amenclinics.com)
- <https://healthybrains.org>
- <https://www.nal.usda.gov/fnic/macronutrients>
- Fotuhi, Majid M.D. PH.D.(2003). *The Memory Cure*. New York, NY: McGraw-Hill.
- Koopsen, Cyndie Koopsen, RN, BSN, MBA, HNB-BC, RN-BC, HWNC-BC. (2017, August). *Brain Health*. Kennesaw State University
- Caroline Young, MPH. (2017, March). *Food, Nutrition, and Health*. Kennesaw State University